

**REMARKS**

**Present Status of the Application**

The Office Action rejected claims 1-2, 4-6 and 10-11 under 35 U.S.C. 112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject which applicant regards as the invention.

The Office Action rejected claims 1, 2, 4-6, and 11 under 35 U.S.C. 103(a) as being unpatentable over Ohara (US6204211) (hereinafter Ohara) in view of Xiao (US 20050179008) (hereinafter Xiao). The Office Action rejected claim 5 and 10 under 35 U.S.C. 103(a) as being unpatentable over Ohara in view of Xiao and as referenced by Moh (US 5204289) (hereinafter Moh).

Applicants have amended claims 1 and 4. All changes to the claims are fully supported by the originally filed claims, disclosure and the drawings. For at least the following reasons, Applicant respectfully submits that claims 1-2, 4-6, 8 and 10-11 are in proper condition for allowance. Reconsideration is respectfully requested.

**Discussion of Office Action rejection**

*The Office Action rejected claims 1, 2, 4-6, 10 and 11 under 35 U.S.C. 112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject which applicant regards as the invention.*

After carefully considering the remarks set forth in this Office Action, Applicant has amended claims 1 and 4 to overcome these rejections. Therefore, Applicant asserts that the rejections under 35 U.S.C. 112, second paragraph are no longer proper, and withdrawal of these rejections is respectfully requested.

The Office Action rejected claims 1, 2, 4, 6, and 11 under 35 U.S.C. 103(a) as being unpatentable over Ohara in view of Xiao. The Office Action rejected claim 5 and 10 under 35 U.S.C. 103(a) as being unpatentable over Ohara in view of Xiao and as referenced by Moh.

In response thereto, Applicants traverse these rejections for at least the reasons set forth below.

The features are recited in claim 1. With respect to claim 1, independent claim 1 recites the features as follows:

1. A luminescent glass article, manufactured by sintering a mixture of particles of a glass and a luminescent substance, comprising a structure in which the luminescent substance is dispersed uniformly in the glass,  
wherein:

a content of the luminescent substance in the luminescent glass article is 1.1 to 2.8 mass%, the luminescent substance having an average particle size of 500 to 5,000  $\mu\text{m}$ ;

light transmittance is 20 to 90% at a thickness of 10 mm; and

an initial luminescence intensity just after irradiation of light of 1,000 lux for 20 min is 200 to 4,000  $\text{mcd/m}^2$ .

(Emphasis added)

Claim 4 also recites the similar features.

Ohara discloses luminous glass ceramics containing rare earth elements in a glass phase and/or a crystallized phase, which can be suitably applied to an oscillation medium for laser oscillation, an excitation light filter or the like. The luminous glass ceramics of Ohara is obtained by heat treatments on the original glasses to deposit crystalline phase in the glass after melting of the raw materials and forming the melted mixture. That is, the luminous glass ceramic of Ohara, which are so called as crystallized glass, are quite different from the luminescent glass article of the present invention, which is manufactured by sintering a mixture of particles of a glass and a luminescent substance, comprising a structure in which the luminescent substance is dispersed uniformly in the glass. Ohara fails to disclose that “manufactured by sintering a mixture of particles of a glass and a luminescent substance, comprising a structure in which the luminescent substance is dispersed uniformly in the glass” as required by the present invention, as set forth in claims 1 and 4.

In addition, the luminous glass ceramics of Ohara, which are used for an oscillation medium for laser oscillation, an excitation light filter or the like intrinsically need not to require a light-storage self luminescent such as an initial luminescence intensity just after irradiation of light of 1000 lux for 20 mm is 200 to 4000 mcd/m<sup>2</sup>. Ohara fails to disclose that “an initial luminescence intensity just after irradiation of light of 1,000 lux for 20 min is 200 to 4,000 mcd/m<sup>2</sup>” as required by the present invention, as set forth in claims 1 and 4.

Xia discloses a light-storage self luminescent glass similar to the luminescent glass article according to the present invention. Also Xia discloses the content of 0.01%-40% of light-storage self luminescent material and the particle size of 10μm- 20mm, which overlap the claimed ranges. However, in examples the content of light-storage self luminescent material is 0.26 wt% (10/3800+10: example 1), 0.4 wt% (2/5000+2: examples 2 and 3), 0.3 wt% (2.4/800+2.4: example 6) respectively, which is very smaller than the content of 1.1 to 2.8 mass% in claim 1. The light-storage self luminescent glass of Xia including such very smaller amount of light-storage self luminescent material cannot have an initial luminescence intensity as claimed in claim 1. Xia fails to disclose that “manufactured by sintering a mixture of particles of a glass and a luminescent substance, comprising a structure in which the luminescent substance is dispersed uniformly in the glass” as required by the present invention, as set forth in claims 1 and 4.

Furthermore, one of ordinary skill in the art would not have sought a combination Xia with Ohara, because Xia and Ohara disclose quite different glass with each other.

For at least the foregoing reasons, Applicants respectfully submit Ezoe, Hesse and Kobayashi fail to teach or suggest the limitations of “**an initial luminescence intensity just after irradiation of light of 1,000 lux for 20 min is 200 to 4,000 mcd/m<sup>2</sup>**”, and thus the references combined do not teach or suggest each and every element claims 1 and 4. Therefore, independent claims 1 and 4 patently define over the prior art references, and should be allowed. For at least the same reasons, dependent claims 2, 5-6, 8 and 10-11 patently define over the prior art as a matter of law, because these dependent claims contain all features of their respective independent claims 1 and 4. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

### **CONCLUSION**

For at least the foregoing reasons, it is believed that all the pending claims 1-2, 4-6, 8 and 10-11 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,  
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